Listing of claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-20. (Canceled).

1

21. (Currently Amended) An isolated nucleic acid molecule comprising a polynucleotide selected from the group consisting of:

~~(a) a polynucleotide encoding amino acid residues 1 to 303 of SEQ ID NO:2;~~

~~(b) a polynucleotide encoding amino acid residues 2 to 303 of SEQ ID NO:2;~~

~~(c)~~(a) a polynucleotide encoding at least 30 contiguous amino acid residues of SEQ ID NO:2;

~~(d)~~(b) a polynucleotide encoding at least 50 contiguous amino acid residues of SEQ ID NO:2;

~~(e) a polynucleotide encoding the polypeptide encoded by the human cDNA in ATCC Deposit No: 75875;~~

~~(f) a polynucleotide encoding the polypeptide minus the N-terminal methionine encoded by the human cDNA in ATCC Deposit No: 75875;~~

~~(g) a polynucleotide encoding mature polypeptide encoded by the human cDNA in ATCC Deposit No: 75875;~~

~~(h) a polynucleotide encoding a fragment of a polypeptide encoded by the human cDNA in ATCC Deposit No: 75875, wherein said fragment has enzymatic activity;~~

~~(i)~~(c) a polynucleotide encoding at least 30 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75875;

~~(j)~~(d) a polynucleotide encoding at least 50 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75875; and

~~(k)~~(e) a polynucleotide having a sequence complementary to the polynucleotide sequence of (a), (b), (c), or (d)~~, (e), (f), (g), (h), (i), or (j)~~.

2 22. (Previously added) The isolated nucleic acid molecule of claim ~~21~~, wherein said polynucleotide is (a).

3 23. (Previously added) The isolated nucleic acid molecule of claim ~~21~~, wherein said polynucleotide is (b).

4 24. (Previously added) The isolated nucleic acid molecule of claim ~~21~~, wherein said polynucleotide is (c).

22. (Previously added) The isolated nucleic acid molecule of claim ~~21~~ 1, wherein said polynucleotide is (a).

23. (Previously added) The isolated nucleic acid molecule of claim ~~21~~ 1, wherein said polynucleotide is (b).

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24. (Previously added) The isolated nucleic acid molecule of claim ~~21~~ 1, wherein said polynucleotide is (c).

5 ~~25~~. (Previously added) The isolated nucleic acid molecule of claim ~~21~~ 1, wherein said polynucleotide is (d).

26-31. (Canceled).

6 ~~32~~. (Previously added) The isolated nucleic acid molecule of claim 21, wherein the polynucleotide further comprises a heterologous polynucleotide.

7 ~~33~~. (Previously added) The isolated nucleic acid molecule of claim ~~32~~ 6, wherein the heterologous polynucleotide encodes a heterologous polypeptide.

8 ~~34~~. (Previously added) A recombinant vector comprising the isolated nucleic acid molecule of claim ~~21~~ 1.

9 ~~35~~. (Previously added) The recombinant vector of claim ~~34~~ 8, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

10 ~~36~~. (Previously added) A method of producing a recombinant vector comprising inserting the isolated nucleic acid molecule of claim ~~21~~ 1 into a vector.

11 ~~37~~. (Previously added) A recombinant host cell comprising the vector of claim ~~34~~ 8.

12 ~~38~~. (Previously added) A recombinant host cell comprising the nucleic acid molecule of claim ~~21~~ 1, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

13 ~~39~~. (Previously added) A host cell comprising the recombinant vector of claim ~~35~~ 9.

14 ~~40~~. (Previously added) A method of producing a host cell comprising transducing, transforming or transfecting a host cell with the vector of claim ~~34~~ 8.

15 ~~41~~. (Previously added) A method for producing the polypeptide encoded by the nucleic acid molecule of claim ~~21~~ 1, comprising:

(a) culturing the recombinant host cell comprising said nucleic acid molecule under conditions suitable to produce the polypeptide; and

(b) recovering the polypeptide from the cell culture.

42. (Canceled).

16 ~~43~~. (Previously added) The isolated nucleic acid molecule of claim ~~21~~ 1, wherein said polynucleotide is double-stranded.

17 ~~44~~. (Previously added) The isolated nucleic acid molecule of claim ~~21~~ 1, wherein said polynucleotide is genomic DNA.

18 ~~45~~. (Previously added) The isolated nucleic acid molecule of claim ~~21~~ 1, wherein said polynucleotide is a cDNA.

19 ~~46~~. (Previously added) The nucleic acid molecule of claim ~~21~~ 1, wherein said polynucleotide is DNA.

47. (Canceled).

20 ~~48~~. (Currently Amended) An isolated nucleic acid molecule comprising a first polynucleotide 90% or more identical to a second polynucleotide selected from the group consisting of:

(a) a polynucleotide encoding amino acid residues 1 to 303 of SEQ ID NO:2;

(b) a polynucleotide encoding amino acid residues 2 to 303 of SEQ ID NO:2;

~~(c) a polynucleotide encoding at least 30 contiguous amino acid residues of SEQ ID NO:2;~~

~~(d) a polynucleotide encoding at least 50 contiguous amino acid residues of SEQ ID NO:2;~~

~~(e)~~(c) a polynucleotide encoding the polypeptide encoded by the human cDNA in ATCC Deposit No: 75875;

~~(f)~~(d) a polynucleotide encoding the polypeptide ~~minus~~ lacking the N-terminal methionine encoded by the human cDNA in ATCC Deposit No: 75875;

~~(g)~~(e) a polynucleotide encoding the mature polypeptide encoded by the human cDNA in ATCC Deposit No: 75875; and

~~(h) a polynucleotide encoding a fragment of a polypeptide encoded by the human cDNA in ATCC Deposit No: 75875, wherein said fragment has enzymatic activity;~~

~~(i) a polynucleotide encoding at least 30 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75875;~~

~~(j) a polynucleotide encoding at least 50 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75875; and~~

~~(k)~~(f) a polynucleotide having a sequence complementary to the polynucleotide of (a), (b), (c), (d), or (e)~~, (f), (g), (h), (i), or (j)~~;

wherein said polynucleotide encodes a polypeptide ~~having ICE LAP 4 activity~~ that induces apoptosis.

21 ~~49~~. (Previously added) The isolated nucleic acid molecule of claim 20 ~~48~~, wherein said second polynucleotide is (a).

22 ~~50~~. (Previously added) The isolated nucleic acid molecule of claim 20 ~~48~~, wherein said second polynucleotide is (b).

23 ~~51~~. (Previously added) The isolated nucleic acid molecule of claim 20 ~~48~~, wherein said second polynucleotide is (c).

24 ~~52~~. (Previously added) The isolated nucleic acid molecule of claim 20 ~~48~~, wherein said second polynucleotide is (d).

25 ~~53~~. (Previously added) The isolated nucleic acid molecule of claim 20 ~~48~~, wherein said second polynucleotide is (e).

54-58. (Canceled).

26 ~~59~~. (Previously added) The isolated nucleic acid molecule of claim 20 ~~48~~, wherein the polynucleotide further comprises a heterologous polynucleotide.

27 ~~60~~. (Previously added) The isolated nucleic acid molecule of claim 26 ~~59~~, wherein the heterologous polynucleotide encodes a heterologous polypeptide.

28 ~~61~~. (Previously added) A recombinant vector comprising the isolated nucleic acid molecule of claim 20 ~~48~~.

29 62. (Previously added) The recombinant vector of claim 28, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

30 63. (Previously added) A method of producing a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 20 into a vector.

31 64. (Previously added) A recombinant host cell comprising the vector of claim 28.

32 65. (Previously added) A recombinant host cell comprising the nucleic acid molecule of claim 20, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

33 66. (Previously added) A host cell comprising the recombinant vector of claim 29.

34 67. (Previously added) A method of producing a host cell comprising transducing, transforming or transfecting a host cell with the vector of claim 28.

35 68. (Previously added) A method for producing the polypeptide encoded by the nucleic acid molecule of claim 20, comprising:

(a) culturing the recombinant host cell comprising said nucleic acid molecule under conditions suitable to produce the polypeptide; and

(b) recovering the polypeptide from the cell culture.

69. (Canceled).

36 70. (Previously added) The isolated nucleic acid molecule of claim 20, wherein said polynucleotide is double-stranded.

37 71. (Previously added) The isolated nucleic acid molecule of claim 20, wherein said polynucleotide is genomic DNA.

38 72. (Previously added) The isolated nucleic acid molecule of claim 20, wherein said polynucleotide is a cDNA.

39 73. (Previously added) The nucleic acid molecule of claim 20, wherein said polynucleotide is DNA.

74. (Canceled).

~~75~~. 40 (Currently Amended) An isolated nucleic acid molecule comprising a first polynucleotide 95% or more identical to a second polynucleotide selected from the group consisting of:

(a) a polynucleotide encoding amino acid residues 1 to 303 of SEQ ID NO:2;

(b) a polynucleotide encoding amino acid residues 2 to 303 of SEQ ID NO:2;

~~(c) a polynucleotide encoding at least 30 contiguous amino acid residues of SEQ ID NO:2;~~

~~(d) a polynucleotide encoding at least 50 contiguous amino acid residues of SEQ ID NO:2;~~

~~(e)~~(c) a polynucleotide encoding the polypeptide encoded by the human cDNA in ATCC Deposit No: 75875;

~~(f)~~(d) a polynucleotide encoding the polypeptide ~~minus~~ lacking the N-terminal methionine encoded by the human cDNA in ATCC Deposit No: 75875;

~~(g)~~(e) a polynucleotide encoding the mature polypeptide encoded by the human cDNA in ATCC Deposit No: 75875; and

~~(h) a polynucleotide encoding a fragment of a polypeptide encoded by the human cDNA in ATCC Deposit No: 75875, wherein said fragment has enzymatic activity;~~

~~(i) a polynucleotide encoding at least 30 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75875;~~

~~(j) a polynucleotide encoding at least 50 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75875; and~~

~~(k)~~(f) a polynucleotide having a sequence complementary to the polynucleotide of (a), (b), (c), (d), or (e)~~, (f), (g), (h), (i), or (j)~~;

wherein said polynucleotide encodes a polypeptide ~~having ICE-LAP-4 activity~~ that induces apoptosis.

41 ~~76~~. (Previously added) The isolated nucleic acid molecule of claim ~~75~~ 48, wherein said second polynucleotide is (a).

42 ~~77.~~ (Previously added) The isolated nucleic acid molecule of claim ~~75~~ 40, wherein said second polynucleotide is (b).

43 ~~78.~~ (Previously added) The isolated nucleic acid molecule of claim ~~75~~ 40, wherein said second polynucleotide is (c).

44 ~~79.~~ (Previously added) The isolated nucleic acid molecule of claim ~~75~~ 40, wherein said second polynucleotide is (d).

45 ~~80.~~ (Previously added) The isolated nucleic acid molecule of claim ~~75~~ 40, wherein said second polynucleotide is (e).

81-85. Canceled.

46 ~~86.~~ (Previously added) The isolated nucleic acid molecule of claim ~~75~~ 40, wherein the polynucleotide further comprises a heterologous polynucleotide.

47 ~~87.~~ (Previously added) The isolated nucleic acid molecule of claim ~~86~~ 46, wherein the heterologous polynucleotide encodes a heterologous polypeptide.

48 ~~88.~~ (Previously added) A recombinant vector comprising the isolated nucleic acid molecule of claim ~~75~~ 40.

49 ~~89.~~ (Previously added) The recombinant vector of claim ~~88~~ 48, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

50 ~~90.~~ (Previously added) A method of producing a recombinant vector comprising inserting the isolated nucleic acid molecule of claim ~~75~~ 40 into a vector.

51 ~~91.~~ (Previously added) A recombinant host cell comprising the vector of claim ~~88~~ 48.

52 ~~92.~~ (Previously added) A recombinant host cell comprising the nucleic acid molecule of claim ~~75~~ 40, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

53 ~~93.~~ (Previously added) A host cell comprising the recombinant vector of claim ~~89~~ 49.

54 ~~94.~~ (Previously added) A method of producing a host cell comprising transducing, transforming or transfecting a host cell with the vector of claim ~~88~~ 48.

55 ~~95.~~ (Previously added) A method for producing the polypeptide encoded by the nucleic acid molecule of claim ~~75~~ 40, comprising:

(a) culturing the recombinant host cell comprising said nucleic acid molecule under conditions suitable to produce the polypeptide; and

(b) recovering the polypeptide from the cell culture.

96. (Canceled).

40
~~96~~ 97. (Previously added) The isolated nucleic acid molecule of claim ~~78~~, wherein said polynucleotide is double-stranded.

40
57 ~~98~~. (Previously added) The isolated nucleic acid molecule of claim ~~75~~, wherein said polynucleotide is genomic DNA.

40
58 ~~99~~. (Previously added) The isolated nucleic acid molecule of claim ~~75~~, wherein said polynucleotide is a cDNA.

40
59 ~~100~~. (Previously added) The nucleic acid molecule of claim ~~75~~, wherein said polynucleotide is DNA.

101. (Canceled).

60 ~~102~~. (Currently Amended) An isolated nucleic acid molecule comprising a polynucleotide selected from the group consisting of:

~~(a) a polynucleotide encoding amino acid residues 1 to 277 of SEQ ID NO:4;~~

~~(b) a polynucleotide encoding amino acid residues 2 to 277 of SEQ ID NO:4;~~

~~(c)~~(a) a polynucleotide encoding at least 30 contiguous amino acid residues of SEQ ID NO:4;

~~(d)~~(b) a polynucleotide encoding at least 50 contiguous amino acid residues of SEQ ID NO:4;

~~(e) a polynucleotide encoding the polypeptide encoded by the human cDNA in ATCC Deposit No: 75873;~~

~~(f) a polynucleotide encoding the polypeptide minus the N-terminal methionine encoded by the human cDNA in ATCC Deposit No: 75873;~~

~~(g) a polynucleotide encoding mature polypeptide encoded by the human cDNA in ATCC Deposit No: 75873;~~

~~(h) a polynucleotide encoding a fragment of a polypeptide encoded by the human cDNA in ATCC Deposit No: 75873, wherein said fragment has enzymatic activity;~~

~~(i)~~(c) a polynucleotide encoding at least 30 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75873;

~~(j)~~(d) a polynucleotide encoding at least 50 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75873; and

~~(k)~~(e) a polynucleotide having a sequence complementary to the polynucleotide of (a), (b), (c), or (d)~~, (e), (f), (g), (h), (i), or (j)~~.

61 ~~103~~. (Previously added) The isolated nucleic acid molecule of claim ~~102~~ 60, wherein said polynucleotide is (a).

62 ~~104~~. (Previously added) The isolated nucleic acid molecule of claim ~~102~~ 60, wherein said polynucleotide is (b).

63 ~~105~~. (Previously added) The isolated nucleic acid molecule of claim ~~102~~ 60, wherein said polynucleotide is (c).

64 ~~106~~. (Previously added) The isolated nucleic acid molecule of claim ~~102~~ 60, wherein said polynucleotide is (d).

107-112. (Canceled).

65 ~~113~~. (Previously added) The isolated polynucleotide of claim ~~102~~ 60, wherein the polynucleotide further comprises a heterologous polynucleotide.

66 ~~114~~. (Previously added) The isolated polynucleotide of claim ~~113~~ 65, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

67 ~~115~~. (Previously added) A recombinant vector comprising the isolated nucleic acid molecule of claim ~~102~~ 60.

68 ~~116~~. (Previously added) The recombinant vector of claim ~~115~~ 67, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

117. (Previously added) A method of producing a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 102 into a vector.

118. (Previously added) A recombinant host cell comprising the isolated nucleic acid molecule of claim 115.

119. (Previously added) A recombinant host cell comprising the nucleic acid molecule of claim 102, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

120. (Previously added) A host cell comprising the recombinant vector of claim 116.

121. (Previously added) A method of producing a host cell comprising transducing, transforming or transfecting a host cell with the vector of claim 115.

122. (Previously added) A method for producing the polypeptide encoded by the nucleic acid molecule of claim 102, comprising:

(a) culturing the recombinant host cell comprising said nucleic acid molecule under conditions suitable to produce the polypeptide; and

(b) recovering the polypeptide from the cell culture.

123. (Canceled).

124. (Previously added) The isolated nucleic acid molecule of claim 102, wherein said polynucleotide is double-stranded.

125. (Previously added) The isolated nucleic acid molecule of claim 102, wherein said polynucleotide is genomic DNA.

126. (Previously added) The isolated nucleic acid molecule of claim 102,wherein said polynucleotide is a cDNA.

127. (Previously added) The nucleic acid molecule of claim 102, wherein said polynucleotide is DNA.

128. (Canceled).

129. (Currently Amended) An isolated nucleic acid molecule comprising a first polynucleotide 90% or more identical to a second polynucleotide selected from the group consisting of:

(a) a polynucleotide encoding amino acid residues 1 to 277 of SEQ ID NO:4;

(b) a polynucleotide encoding amino acid residues 2 to 277 of SEQ ID NO:4;

~~(c) a polynucleotide encoding at least 30 contiguous amino acid residues of SEQ ID NO:4;~~

~~(d) a polynucleotide encoding at least 50 contiguous amino acid residues of SEQ ID NO:4;~~

~~(e)~~(c) a polynucleotide encoding the polypeptide encoded by the human cDNA in ATCC Deposit No: 75873;

~~(f)~~(d) a polynucleotide encoding the polypeptide ~~minus~~ lacking the N-terminal methionine encoded by the human cDNA in ATCC Deposit No: 75873;

~~(g)~~(e) a polynucleotide encoding the mature polypeptide encoded by the human cDNA in ATCC Deposit No: 75873;

~~(h) a polynucleotide encoding a fragment of a polypeptide encoded by the human cDNA in ATCC Deposit No: 75873, wherein said fragment has enzymatic activity;~~ and

~~(i) a polynucleotide encoding at least 30 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75873;~~

~~(j) a polynucleotide encoding at least 50 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75873; and~~

~~(k)~~(f) a polynucleotide having a sequence complementary to the polynucleotide of (a), (b), (c), (d), or (e)~~, (f), (g), (h), (i), or (j)~~;

wherein said polynucleotide encodes a polypeptide ~~having ICE-LAP 3 activity~~ that induces apoptosis.

130. (Previously added) The isolated nucleic acid molecule of claim 129, wherein said second polynucleotide is (a).

131. (Previously added) The isolated nucleic acid molecule of claim 129, wherein said second polynucleotide is (b).

132. (Previously added) The isolated nucleic acid molecule of claim 129, wherein said second polynucleotide is (c).

133. (Previously added) The isolated nucleic acid molecule of claim 129, wherein said second polynucleotide is (d).

134. (Previously added) The isolated nucleic acid molecule of claim 129, wherein said second polynucleotide is (e).

135-139. (Canceled).

140. (Previously added) The isolated polynucleotide of claim 129, wherein the polynucleotide further comprises a heterologous polynucleotide.

141. (Previously added) The isolated polynucleotide of claim 140, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

142. (Previously added) A recombinant vector comprising the isolated nucleic acid molecule of claim 129.

143. (Previously added) The recombinant vector of claim 142, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

144. (Previously added) A method of producing a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 129 into a vector.

145. (Previously added) A recombinant host cell comprising the vector of claim 142.

146. (Previously added) A recombinant host cell comprising the nucleic acid molecule of claim 129, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

147. (Previously added) A host cell comprising the recombinant vector of claim 143.

148. (Previously added) A method of producing a host cell comprising transducing, transforming or transfecting a host cell with the vector of claim 142.

149. (Previously added) A method for producing the polypeptide encoded by the nucleic acid molecule of claim 129, comprising:

(a) culturing the recombinant host cell comprising said nucleic acid molecule under conditions suitable to produce the polypeptide; and

(b) recovering the polypeptide from the cell culture.

150. (Canceled).

151. (Previously added) The isolated nucleic acid molecule of claim 129, wherein said polynucleotide is double-stranded.

152. (Previously added) The isolated nucleic acid molecule of claim 129, wherein said polynucleotide is genomic DNA.

153. (Previously added) The isolated nucleic acid molecule of claim 129,wherein said polynucleotide is a cDNA.

154. (Previously added) The nucleic acid molecule of claim 129, wherein said polynucleotide is DNA.

155. (Canceled).

156. (Currently Amended) An isolated nucleic acid molecule comprising a first polynucleotide 95% or more identical to a second polynucleotide selected from the group consisting of:

(a) a polynucleotide encoding amino acid residues 1 to 277 of SEQ ID NO:4;

(b) a polynucleotide encoding amino acid residues 2 to 277 of SEQ ID NO:4;

~~(c) a polynucleotide encoding at least 30 contiguous amino acid residues of SEQ ID NO:4;~~

~~(d) a polynucleotide encoding at least 50 contiguous amino acid residues of SEQ ID NO:4;~~

~~(e)~~(c) a polynucleotide encoding the polypeptide encoded by the human cDNA in ATCC Deposit No: 75873;

~~(f)~~(d) a polynucleotide encoding the polypeptide ~~minus~~ lacking the N-terminal methionine encoded by the human cDNA in ATCC Deposit No: 75873;

~~(g)~~(e) a polynucleotide encoding the mature polypeptide encoded by the human cDNA in ATCC Deposit No: 75873; and

~~(h) a polynucleotide encoding a fragment of a polypeptide encoded by the human cDNA in ATCC Deposit No: 75873, wherein said fragment has enzymatic activity;~~

~~(i) a polynucleotide encoding at least 30 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75873;~~

~~(j) a polynucleotide encoding at least 50 contiguous amino acid residues of the polypeptide encoded by the human cDNA in ATCC Deposit No: 75873; and~~

~~(k)~~(f) a polynucleotide having a sequence complementary to the polynucleotide of (a), (b), (c), (d), or (e)~~, (f), (g), (h), (i), or (j)~~;

wherein said polynucleotide encodes a polypeptide ~~having ICE-LAP 3 activity~~ that induces apoptosis.

157. (Previously added) The isolated nucleic acid molecule of claim 156, wherein said second polynucleotide is (a).

158. (Previously added) The isolated nucleic acid molecule of claim 156, wherein said second polynucleotide is (b).

159. (Previously added) The isolated nucleic acid molecule of claim 156, wherein said second polynucleotide is (c).

160. (Previously added) The isolated nucleic acid molecule of claim 156, wherein said second polynucleotide is (d).

161. (Previously added) The isolated nucleic acid molecule of claim 156, wherein said second polynucleotide is (e).

162-166. (Canceled).

167. (Previously added) The isolated polynucleotide of claim 156, wherein the polynucleotide further comprises a heterologous polynucleotide.

168. (Previously added) The isolated polynucleotide of claim 167, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

169. (Previously added) A recombinant vector comprising the isolated nucleic acid molecule of claim 156.

170. (Previously added) The recombinant vector of claim 169, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

171. (Previously added) A method of producing a recombinant vector comprising inserting the isolated nucleic acid molecule of claim 156 into a vector.

172. (Previously added) A recombinant host cell comprising the vector of claim 169.

173. (Previously added) A recombinant host cell comprising the nucleic acid molecule of claim 155, wherein the nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

174. (Previously added) A host cell comprising the recombinant vector of claim 170.

175. (Previously added) A method of producing a host cell comprising transducing, transforming or transfecting a host cell with the vector of claim 169.

176. (Previously added) A method for producing the polypeptide encoded by the nucleic acid molecule of claim 155, comprising:

(a) culturing the recombinant host cell comprising said nucleic acid molecule under conditions suitable to produce the polypeptide; and

(b) recovering the polypeptide from the cell culture.

177. (Canceled).

178. The isolated nucleic acid molecule of claim 156, wherein said polynucleotide is double-stranded.

179. (Previously added) The isolated nucleic acid molecule of claim 156, wherein said polynucleotide is genomic DNA.

180. (Previously added) The isolated nucleic acid molecule of claim 156,wherein said polynucleotide is a cDNA.

181. (Previously added) The nucleic acid molecule of claim 156, wherein said polynucleotide is DNA.

182. (Canceled).